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NOTES ON SOME PLEUROTOMARIIDÆ OF THE CRETACEOUS OF NEW JERSEY.

BY HENRY A. PILSBRY, SC.D.

The following notes are based upon a study of the type specimens of the species discussed, together with other examples in the collection of the Academy. The generic term *Pleurotomaria* is here used in the older, wide sense.

***Pleurotomaria crotaloides* (Morton).**

Cirrus crotaloides Morton, Synopsis Organic Remains Cretaceous group of the U. S., p. 49, pl. 19, fig. 5, 1834.

Pleurotomaria crotaloides Pils., Proc. A. N. S. Phila., 1896, p. 11 (notes on Morton's type specimen).

This species is represented in the collection of the Academy by

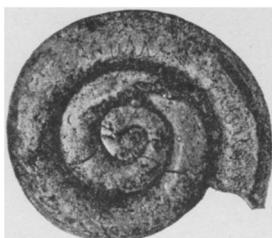


Fig. 1.—*P. crotaloides*.

the type specimen from Erie, Ala., figured by Morton, and a smaller example from Uniontown, in which the slit is well shown. It is 17 mm. long, so far as preserved, probably about 20 when perfect, and 1 mm. wide (fig. 1). Both specimens are internal casts.

In 1896 the writer identified a much larger cast from Mullica Hill with *P. crotaloides*, a conclusion which renewed

study shows was erroneous. The Mullica Hill example differs in several important particulars, as indicated below under *P. woolmani*.

In 1907 Professor Stuart Weller understood *P. crotaloides* to include *Architectonica abbotti* Gabb as well as the form now differentiated as *P. woolmani*. This course seems to me untenable, for reasons given below. So far as present information and collections show, *P. crotaloides* (Morton) is not known to occur in New Jersey.

***Pleurotomaria abbotti* (Gabb.).**

Architectonica abbotti Gabb, Proc. A. N. S. Phila., 1861, p. 321.

Margaritella abbotti Gabb, Whitfield, Gastrop. and Ceph. of the Raritan Clays and Greensand Marls of New Jersey, p. 134, pl. 17, figs. 12-15.

Pleurotomaria crotaloides Morton, Weller, Rep. on the Cret. Paleont. of New Jersey, 1907, p. 665. Not of Morton.

Professor Whitfield's figures give a good idea of this species, though they are somewhat "restored," the plication below the suture being made continuous, whereas in the shells it has been partially effaced;

moreover, the spiral striation depicted is far less distinct in the specimens themselves. One of the two cotypes shows the trace of a slit, a short distance above the periphery, narrower and nearer to the periphery than in *P. crotaloides*. The specimens are internal casts composed of coarse glauconitic sand. The fact that they show sculpture indicates that the shell was quite thin, its inner surface being modified in conformity with the external ornamentation. *P. crotaloides* was probably thicker, since the casts, although in fine material, show no trace whatever of sculpture. This alone would indicate the specific diversity of *P. crotaloides* and *P. abbotti*; but an inspection of the fossils shows that the spire was a little higher in *P. abbotti*, and the greatest convexity of the upper surface of the whorls is not quite so close to the suture. The umbilicus is about equal in the casts of the two species, being somewhat less than one-third the total diameter of the shell. In *P. woolmani* it is more than one-third the diameter. There can, I believe, be no reasonable doubt that *P. abbotti* is specifically distinct from *P. crotaloides*.

***Pleurotomaria woolmani* n. sp.**

Pleurotomaria crotaloides Pilsbry, Proc. A. N. S. Phila., 1896, p. 10, pl. I.
Not of Morton.

This species differs from both *P. crotaloides* and *P. abbotti* by its broad umbilicus, which is contained $2\frac{4}{5}$ times in the diameter of the shell, while in the other species it is contained more than three times ($3\frac{1}{4}$ to fully $3\frac{1}{2}$) in the diameter. The earlier whorls are evenly rounded above, oval in section, not irregularly swollen as in the other species. There is no trace of the radial sculpture of *P. abbotti*, although the cast is very perfectly preserved. The unique type, an internal cast, has been described and figured in my paper cited above. It measures 70 mm. in diameter. The type is No. 1625 A. N. S. P.

This species is named in honor of the late Lewis Woolman, whose work on well-borings contributed important facts relative to the stratigraphy of New Jersey. He was also a successful collector of fossils.